

Appl. No.: 10/586,212
Response Dated June 7, 2010
Response to Office Action of March 12, 2010

REMARKS

Claims 1–7 and 10–26 are pending in the application, with Claims 14–20 being withdrawn. Claims 1–7, 10–13, and 21–26 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In addition, Claims 1–7, 10–13, and 21–26 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,411,805 to Magill (“Magill ’805”) and under 35 U.S.C. § 103(a) as being unpatentable over Magill ’805; Claims 1, 6, 7, and 10–12 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,049,347 to Magill et al. (“Magill ’347”) and under 35 U.S.C. § 103(a) as being unpatentable over Magill ’347; Claims 1 and 6 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Publication No. 2002/0157200 to Galantai (“Galantai”) and under 35 U.S.C. § 103(a) as being unpatentable over Galantai; and Claims 1 and 6 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Publication No. 2001/0014394 to Soane et al. (“Soane”) and under 35 U.S.C. § 103(a) as being unpatentable over Soane.

Applicant’s representative thanks the Examiner for the courtesies extended during the telephonic interview that took place on May 26, 2010. The Amendments and Remarks set forth herein are reflective of the agreements reached during the interview with respect to independent Claims 1 and 21. Accordingly, Applicant respectfully submits that the application is in condition for allowance.

Amendments to Claims 1 and 21

As a preliminary matter, independent Claims 1 and 21 have been amended to clarify the claimed invention and further distinguish the claimed invention from the cited references, as discussed with the Examiner. Claims 1 and 21 recite, *inter alia*, a method of producing a cutting filament, the filament being made of a synthetic material having elongated molecular chains, by bringing the filament to a state of controlled viscosity, drawing the filament lengthwise to

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produce a first longitudinal molecular orientation, and imposing on the filament a change of cross section so as to partially reorient the molecular chains in a transverse direction.

Claims 1 and 21 have been amended to recite that the filament comprises a body and at least one wing protruding from the body. Claim 1 has further been amended to recite the steps of drawing the filament lengthwise to produce a first longitudinal molecular orientation in the body and imposing on the filament a change of cross section so as to partially reorient the molecular chains in a transverse direction in the region of said at least one wing, wherein the change of cross section comprises forcing the filament through at least one die. Support for the amendment is found throughout the specification, for example at page 5, lines 26–29; page 6, lines 29–39; page 7, lines 1–5; and Figures 2 and 3. Claim 21 has been similarly amended to recite that at least one of the changes of cross section comprises forcing the filament through at least one die. Support for the amendment is found throughout the specification, for example at page 6, lines 29–39; page 7, lines 1–5; and Figures 2 and 3.

Applicant appreciates the Examiner's indication during the telephonic interview that the amendments to Claims 1 and 21 distinguish the claimed invention over the cited references and overcome the § 102 and § 103 rejections made in the Office Action.

As a result of the amendments to Claims 1 and 21, described above, dependent Claims 10, 13, and 26 have been cancelled, and dependent Claim 23 has been amended accordingly.

Claim Rejection Based on 35 U.S.C. § 112

Claims 1–7, 10–13, and 21–26 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. To address this rejection, Claims 1 and 21 have been amended as listed above to delete the phrase "such as." In addition, Claim 21 has been amended to correct the typographical error that resulted in the inclusion of a period after the word "similar." Accordingly, Applicant submits that the rejections based on 35 U.S.C. § 112 have been overcome.

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Claim Rejection Based on 35 U.S.C. § 102 and 35 U.S.C. § 103

Independent Claims 1 and 21, and various claims depending therefrom, are rejected under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a) as being anticipated by and/or unpatentable over Magill '805, Magill '347, Galantai, and/or Soane. Applicant respectfully submits that none of the cited reference teaches or suggests each and every element of Claims 1 and 21, as amended.

Claims 1 and 21 are patentable over Magill '805 and Magill '347

As discussed during the telephonic interview, amended Claims 1 and 21 are neither anticipated by nor obvious in view of Magill '805 and Magill '347. In particular, neither Magill reference teaches or suggests imposing on the filament a change of cross section so as to partially reorient the molecular chains in a transverse direction. Rather, both Magill references relate to a process called "rolltrusion" that does not allow producing an orientation of the molecular chains in a longitudinal and in a transverse direction, as claimed. Indeed, both Magill references disclose a method in which a polymer billet is drawn between rollers to form an elongated workpiece. Magill '347, col. 7, lines 63–66; Magill '805, col. 10, lines 60–63. Although Magill mentions that the workpiece is "doubly oriented," contrary to the present invention, Magill does not use this phrase to mean that the molecular chains are oriented into two different orientations. According to Magill's process, "doubly oriented" means that the molecular chains have one of the crystallographic planes that is parallel to the molecular axis and is oriented parallel to the plane of rolling. *See, e.g.*, Magill '347, col. 2, lines 39–46; and col. 4, lines 23–33 and 44–48. In particular, Magill '347 clearly distinguishes the "double orientation" obtained by his process from the "biaxial orientation" that corresponds to an alignment of the molecular chains along two different orientations (*see, e.g.*, Magill '347, col. 2, lines 33–36; col. 4, lines 30–33 (noting at the asterisk that the term "doubly-oriented" "signifies a triaxial crystallite orientation within an oriented amorphous load bearing matrix, unlike biaxial orientation with which it is often confused").

Furthermore, it can be seen in Fig. 1(b) of both Magill references that the molecular chains, which were randomly oriented before the rolltrusion process (*see* Fig. 1(a)), are all oriented in the same direction after the rolltrusion process. Fig. 1 is reproduced below for the Examiner's convenience.

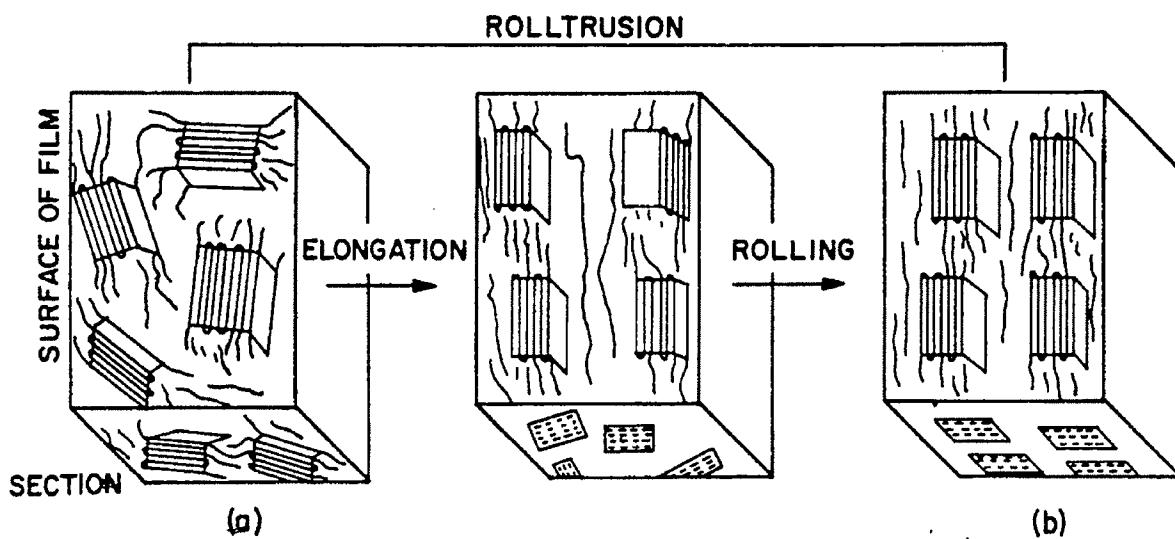


Figure 1

To further clarify the claimed invention from the Magill references, Claim 1 has been amended as described above and discussed with the Examiner to recite the steps of drawing the filament lengthwise to produce a first longitudinal molecular orientation in the body and imposing on the filament a change of cross section so as to partially reorient the molecular chains in a transverse direction in the region of said at least one wing, wherein the change of cross section comprises forcing the filament through at least one die. Claim 21 has been similarly amended to recite that at least one of the changes of cross section comprises forcing the filament through at least one die. Neither Magill '805 nor Magill '347 teaches or suggests these recitations. Accordingly, Applicant respectfully submits that Claims 1 and 21, and the claims that depend therefrom, are patentable over Magill '805 and Magill '347.

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Claims 1 and 21 are patentable over Galantai

Amended Claims 1 and 21 are neither anticipated by nor rendered obvious by Galantai. Galantai discloses a method for producing a pull-through comprising a step of drawing a filament in order to produce a longitudinal orientation of the molecules within the filament, followed by a heat treatment under axial tension so as to impart a biaxial orientation to the surface molecules. Galantai, Abstract; Para. [0064]. This treatment is done in order to remove the stress of the filament. Para. [0064]. In contrast with the claimed invention, however, the filament in Galantai is not subjected to any change of cross-section so as to reorient the chains in a transverse direction. As discussed with the Examiner, independent Claims 1 and 21 have been amended to recite that the change of cross section comprises forcing the filament through at least one die to further clarify and distinguish the claimed invention.

Accordingly, Applicant respectfully submits that Claims 1 and 21, and the claims that depend therefrom, are patentable over Galantai.

Claims 1 and 21 are patentable over Soane

Finally, amended Claims 1 and 21 are neither anticipated by nor rendered obvious by Soane. Soane discloses a method for manufacturing hollow plastic fibers. Soane, Absract. According to this method, the fibers are extruded (thereby imparting to the molecular chains a longitudinal orientation) and then subjected to an expansion process that gives at least some of the fibers a radial orientation. Para. [0045].

To allow this radial expansion of the fibers, the material of the fibers is, prior to the extrusion process, mixed with a blowing agent, and the expansion process is carried out by heating the fibers. This heating generates a stretching force within the material of the fibers due to the blowing agent. Para. [0041].

Therefore, in contrast with the claimed invention, the reorientation of the molecular chains in Soane is not obtained by a change of cross section that includes forcing the filaments through a die, as recited in amended Claims 1 and 21, but rather is done by selecting an expandable material and subjecting it to a heat treatment. Applicant also notes that an

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expandable material such as taught by Soane would not be appropriate for a cutting filament for a plant cutting device, as it would not provide the stiffness required for cutting plants.

Accordingly, Applicant respectfully submits that Claims 1 and 21, and the claims that depend therefrom, are patentable over Soane.

Claim for Foreign Priority

Applicant thanks the Examiner for the acknowledgment of Applicant's claim for foreign priority. Applicant will file a certified copy of the WIPO application as required as soon as possible.

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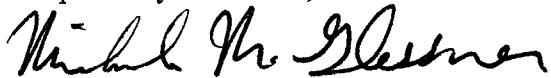
CONCLUSION

In view of the remarks presented above, it is respectfully submitted that independent Claims 1 and 21 and all the claims depending therefrom (*i.e.*, Claims 2–7, 11–12, and 22–25) are in condition for allowance. It is respectfully requested that a Notice of Allowance be issued in due course. The Examiner is requested to contact Applicant's undersigned attorney to resolve any remaining issues in order to expedite examination of the present application.

The patentability of the independent claims has been argued as set forth above, and thus Applicant will not take this opportunity to argue the merits of the rejection with regard to specific dependent claims. However, Applicant does not concede that the dependent claims are not independently patentable and reserves the right to argue the patentability of dependent claims at a later date if necessary.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefor (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



Michele Glessner
Registration No. 58,713

Customer No. 00826
ALSTON & BIRD LLP
Bank of America Plaza
101 South Tryon Street, Suite 4000
Charlotte, NC 28280-4000
Tel Charlotte Office (704) 444-1000
Fax Charlotte Office (704) 444-1111

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